

APPENDIX B

CONFINEMENT FACILITIES

B-1. Purpose. This appendix provides design criteria for electrical systems for confinement facilities. These criteria will also apply to correctional training facilities and disciplinary barracks having similar functional areas. The criteria in the basic test of this manual will apply except as modified herein.

B-2. Power supply. Power supply for confinement facilities will conform to TM 5-811-1/AFM 88-9, Chapter 1, Electrical Power Supply and Distribution, except as modified below.

a. Primary power. One primary feeder will be extended from the existing on-base system, either overhead or underground, to a point not less than 50 feet outside the perimeter fence. From the point, the feeder will run underground to a pad mounted transformer located near the mechanical room but outside the secured area or to a transformer installation within the equipment room. Where no fence is provided or exists, the primary feeder will be extended to the mechanical equipment room.

b. Service entrances. Service entrances supplied by an exterior transformer will be run underground in coated, rigid steel conduit or coated intermediate metal conduit (IMC).

c. Auxiliary power. Each facility will be provided with an auxiliary power source consisting of one diesel-engine-driven electric generator with auxiliaries as required and a residential-type exhaust silencer. Controls for the engine will conform to the criteria given in chapter 10 of TM 5-838-2 for Army hospitals, and in AFM 88-50 for Air Force hospitals, except that parallel operation and automatic load shedding provisions will not apply. The fuel tanks will be sized to the nearest standard capacity for a 3-day supply.

B-3. Interior distribution. Fluorescent lighting loads and building power loads will be supplied by a 480Y/277-volt system. Incandescent loads and receptacles for small portable equipment will be supplied by a 208Y/120-volt system provided by dry-type transformers located in secured areas. All panelboards and service equipment will be of the circuit breaker type.

a. Interior wiring. All interior wiring systems will consist of insulated conductors installed in concealed, rigid steel conduit.

b. Exterior wiring. Wiring for exterior security lighting will be installed underground. Security light-

ing will be arranged so that adjacent fixtures and adjacent lamps of two-lamp fixtures are connected to different branch circuits supplied from a panelboard in the control room. Each guard tower will be supplied by a separate, single-phase, 277-volt feeder.

c. Roadway and parking area lighting. Where roadway and parking area lighting is authorized by the project scope, all necessary controls will be located in the control room.

d. Outlets. All outlets will be flush mounted. Receptacles will not be installed in detention cells. Receptacles will be provided for clothes washers and dryers where required by and in locations indicated by the Using Service. Receptacles for television sets will be switched from the panelboard in the control room.

(1) Floor maintenance receptacles will be provided in corridors and halls so that no area of any floor surface will be more than 45 feet from a maintenance receptacle. Current and voltage ratings, and receptacle types will be selected in coordination with the Using Service. All such receptacles on each floor will be connected to one branch circuit of adequate rating to supply one floor maintenance machine.

(2) One 20-ampere, 125 volt, two-pole, three-wire, grounding-type receptacle will be provided in each corridor of each cell wing for electrically heated food carts. Joint use of floor maintenance receptacles will be made for this purpose to the fullest extent practicable.

(3) A clock outlet will be provided in each of the following areas, at locations designated by the local Provost Marshal:

- Commander's office
- Provost sergeant's office
- Administrative office
- Visitor-guard room
- Multipurpose room
- Guard's office
- Control room
- Dining rooms
- Dispensary

B-4. Lighting. Lighting will consist of fluorescent and incandescent sources only. Long-restrike times associated with high-intensity discharge (HID) sources render their use unsuitable for application in conjunction with confinement facilities.

a. Intensities. Average maintained lighting intensities will be provided in conformance with table B-1.

Table B-1. Lighting Requirements by Area

Location	Footcandles	Location	Footcandles
Guard-visitor room	30	Lobby	15
Control room	*	Social workers' area—booths	50
Offices	50	Social workers' area—waiting	30
Kitchen storage	30	Consultation-interrogation area-booths	50
Dining rooms	30	Consultation-interrogation area-waiting	30
Cafe counter	50	Photographic room—normal	30
Arms room	30	Photographic room—developing	0.1
Dormitories	30	Administrative area	50
Prisoner processing	75	Interior sallyport	50**
Storage/supply	5-20	Sallyport, receiving yard	20-25
Dispensary	50	Mail room	50
Laundry	30	Multipurpose room	50
Janitors closet, with lavatory	10	Health and comfort	30
Janitors closet, without lavatory	5	Building exterior walls	3
Dayroom	15		
Individual cells		Security areas 50 feet beyond security fencing and gates, and between security fencing and buildings.	
Close confinement: One 150-watt incandescent lamp			
Holding, and other: Two 150-watt incandescent lamps			1

*Control room lighting will be of the ceiling recessed incandescent type supplied by two branch circuits having a manual dimmer in each circuit. One circuit will provide approximately 50 footcandles intensity on the floor. The other circuit will provide approximately 20 footcandles intensity on counters at windows.

**Interior sallyports adjacent to control room will have a supplemental floodlight to provide a minimum of 150 footcandles on the room side of each electrically controlled sallyport door. Floodlight controls will be located in Control room.

b. Security lighting. Security lighting will be provided when perimeter fencing, gates and guard towers are authorized by the project scope. Security lighting will cover all exterior confinement areas and areas 50 feet outside of perimeter fence. Exterior walls of confinement buildings, the exterior exercise yards, and exterior sallyport receiving yards will be floodlighted.

c. Lighting fixtures. Exact locations of fixtures in security areas and exit lights will be coordinated with the local Provost Marshal.

(1) Fixtures in prisoner detention areas will be of the ceiling recessed, vandalproof type with high-impact lenses.

(2) Fixtures in individual cells will be of the cast metal, back-access type for wall mounting above lavatory at ceiling. Fixtures in close-confinement cells will have one 150-watt incandescent lamp. Fixtures in holding and other detention cells will have 150-watt incandescent lamps.

(3) Fixtures in dormitory-type detention areas will be of the ceiling-recessed, fluorescent type.

(4) Night lighting fixtures will be provided in

prisoner confinement areas. Fixtures shall be of cast metal with louvered front, flush mounted, approximately 18 inches above floors, having incandescent lamps of orange color.

(5) In other areas within the building, fluorescent fixtures will be used except in closets, storerooms, mechanical rooms, detention cells, exterior entrances and such other spaces requiring only intermittent use.

(6) Exterior security lighting fixtures will consist of two-lamp units or two adjacent one-lamp units, with incandescent lamps of the general service type, having 130-volt rating for use at 120-volts. Fixtures illuminating exterior walls of the buildings and sallyports will be mounted as near the roof as practicable, or will be mounted on yard lighting standards not less than 14 feet above the ground. Perimeter road and exterior security area floodlighting units will be located at sufficient height to prevent objectionable glare in the eyes of guards in towers.

(7) Each guard tower will be provided with a search light having a motor-operated drum, to permit

observers to quickly spot an object within the security-fenced area. The searchlight will be mounted on top of the tower, and provided with a remote foot-operated control at the guards' position in the tower. Searchlights will be of the narrow-beam, 120-volt incandescent type, furnishing a minimum of 10 footcandles at the maximum distance specified by the local Provost Marshal.

d. Security lighting controls. Security lighting controls will be provided as indicated below:

(1) Interior security lights are areas normally accessible to prisoners will be controlled only from the Control Room. Areas and functions to be included are:

- Prisoner confinement areas
- Prisoner kitchen and dining areas
- Health, comfort and mail rooms
- Interior sallyports
- Multipurpose rooms
- Dayrooms
- Classrooms
- Night lights

(2) Exterior security lights will be controlled only from the Control Room. When authorized by the local Provost Marshal this lighting may be arranged for photoelectrical or astronomic time clock control having a bypass switch in Control Room.

B-5. Auxiliary power source loads. The following loads will be supplied from the auxiliary power source through an automatic transfer switch:

a. Exterior security lighting. All lighting fixtures and guard tower circuits.

b. Interior security lighting. A sufficient number of fixtures to provide the following minimum average footcandles:

- | | |
|---|---------------|
| - Areas normally available to any prisoner, except detention cells: | 2 footcandles |
| - Detention cells: | All fixtures |
| - Corridors, stairs and exits: | 2 footcandles |
| - Control room: | All fixtures |
| - Commander, and Provost Sergeant offices: | 5 footcandles |
| - Arms storage: | All fixtures |
| - Processing area: | 5 footcandles |
| - Dispensary: | All fixtures |
| - Dining rooms: | 3 footcandles |
| - Kitchens: | 5 footcandles |

c. Other loads:

- Kitchen: Minimum cooking and food refrigerator units, as determined by the Using Agency.
- Dispensary: All receptacles.
- Fire alarm system.
- Electric door lock control system.

- Security public address system.
- Security intercommunications system.
- Security audio monitoring system.

B-6. Telephone system. A complete empty raceway system will be provided for installation of wiring and equipment. Sizes of raceways and cabinets for main and sub-terminal wiring will be coordinated with the local Communications Officer. Exact locations of telephone outlets will be coordinated with the local Provost Marshal. Telephone outlets will be provided in all offices, control rooms and dispensary. Outlets in administrative areas will be provided on a basis of one for each 150 square feet of office space. One public pay station outlet will be provided in the lobby. No telephone outlets will be provided in consultation and social worker interviewing areas.

B-7. Master antenna television distribution systems. A master antenna television distribution system will be provided complete including antenna, amplifiers, distribution facilities and antenna outlets, having capability of receiving all local television channels. Where cable distributed signals are available from other sources on the post, the building antenna may be omitted and a cable system substituted, where authorized by the local Communications Officer. Each television antenna outlet will be complete with recessed box and flush metal wall plate, having built-in 75-ohm coaxial cable connector and matching plug. The outlet plate will be marked "75 ohm TV." A standard convenience receptacle will be located adjacent to each television antenna outlet. Outlets will be located in the following rooms and will be coordinated with the installation Provost Marshal:

- Dormitories: one each, at toilet end of wings.
- Multipurpose room: one in each section of room.
- Dining room and mess hall: one each.
- Guard-visitor room: one each.
- Holding wings: one in each dayroom.
- Office of correctional officer: one each.

B-8. Fire alarm system. A fire alarm system will be provided complete, with supervisory panel located in the Control Room. Manual stations and detectors will be located in areas not normally accessible to prisoners and will include control rooms, administrative, and other secure areas. Transmission of alarms to a central source will be in conformance with AR 420-90, Fire Prevention and Protection.

B-9. Security control systems. Equipment for the security control systems will be Government-furnished for installation by the construction contractor. Exact locations of all system components will be coordinated with the local Provost Marshal. Wiring

between components and control console will be installed by the construction contractor in accordance with details and diagrams furnished by the Federal Prison Industries.

a. A single control console will be floor mounted in the Control Room and will have separate sections for the security door and gate surveillance, intercommunication, public address and audio monitoring systems. All control switches will be of the heavy-duty type. Raised guards will be provided for switches controlling drop doors. Spare circuits will be provided as follows:

- One for each category of security doors and gates.
- Two for intercommunications system slave stations.
- Two for public address system speakers.

b. Security doors and gates will be provided with electrical surveillance. Components will be procured commercially with the doors and gates and will be identified as electrically interlocked, electrically locked and unlocked, or key operated. Open and closed positions of each door, gate and lock will be indicated on the console.

c. Intercommunication system will be provided as part of the administrative telephone system wherever practicable. Otherwise, the intercommunication will be of the dedicated type, and will have a master station in the control console. Master station will have power on-off switch, switch with pilot light for each slave station and necessary volume controls. Slave stations will be for desk or flush wall mounted, and will have a master station call switch. Slave stations, whether dedicated systems or telephone-type, will be located as follows:

- All offices, including group administration areas, exclusive of social worker, consultation and interview rooms.
- Dormitories, close confinement and holding wings, sallyports, and adjacent corridors.
- Lobby.
- Dayrooms.
- Multipurpose room.
- Dispensary.
- Sallyport, processing.
- Mail room.
- Health and comfort room.
- Storage and supply.
- Library.
- Guard dining area.
- Receiving platforms.
- Guard towers and sentry houses.
- Arms rooms.

d. Public address system will have a master station

in the console with power on-off switch, volume controls and switch for each speaker plus an all-call feature. Remote stations will be ceiling-recessed 8-inch speakers located in the following areas:

- Guard's and visitor's room.
- All dormitories, and corridors of holding, and close confinement wings.
- Main corridor.
- Prisoner dining area.
- Multipurpose room.
- Processing area.
- Exercise yards (weatherproof).
- Emergency assembly yards (weatherproof).
- Enclosed service area.

e. Audio monitoring system will provide concealed microphones in individual cells and dormitory wings. In large areas, a plurality of microphones will be provided to obtain adequate coverage of such areas. The master station in the control console will have power on-off switch, separate circuit for each cell or wing microphone, recessed monitor speaker, jack and head set, volume controls and all-circuit monitor switch.

f. Procurement requests for Government furnished equipment from Federal Prison Industries (FPI), Inc., will be directed to-

Associate Commissioner
Federal Prison Industries, Inc.
ATTN: Marketing Specialist, Electronics
REF: 3EP 3213
US Department of Justice
101 Indiana Avenue, NW
WASH, DC 20537

Procurement requests will include the requirements for the following:

- Delivery date.
- Estimated system cost, to be furnished prior to fabrication of system, to permit cost comparison in conformance with ASPR Section V, Part 4.
- Estimated cost for the services of an FPI technical specialist at the project site for a specified number of days during the period of final connections and testing by the construction contractor.
- Estimated cost for the services of an FPI technical specialist for a specified number of days during the construction period for advisory and troubleshooting purposes, only if critical problems develop.
- Installation manuals, detailed wiring diagrams of each system component, and interconnection diagrams between console and components.

- Shop drawings and/or specification data sheets, as appropriate, of the system components and accessories.
 - Warranty for 1 year for all materials and equipment against defects and fabrication.
- g.* Scale drawings of floor plans and riser or block

diagrams will be furnished the FPI for all systems. The number and location of all components and installation details will be shown.

h. Specifications furnished the FPI will be complete, and will include detailed requirements for all system components.